

*C3
cancel.*
electrode is neighbored by at least one common electrode and each common electrode is neighbored by at least one signal electrode;

- a layered structure of alternating auxiliary electrodes and common electrodes arranged in the inactive portion, substantially parallel with the bottom face and separated by layers of the piezoelectric material, wherein each auxiliary electrode is neighbored by at least one common electrode and each common electrode is neighbored by at least one auxiliary electrode;

- at least one signal lead electrode formed on a first side face of said block body of piezoelectric material and interconnecting the signal electrodes;

- a ground lead electrode formed on a second side face opposite to the first side face and interconnecting the common electrodes;

- and an auxiliary lead electrode interconnecting the auxiliary electrodes, wherein the auxiliary lead electrode is formed on a third side face of the block body, wherein the active portion is divided into a plurality of fingers arranged in parallel to one another and integrally connected with each other by the said inactive portion of the block body.

*C3
cancel.*
11. (Amended) A piezoelectric actuator for an ink jet printhead, comprising:

a block body of piezoelectric material having a bottom face through which the mechanical energy of the actuator is transferred to a receiving

C3
cont.

member, said body having an active portion adjacent to the bottom face as well as a first inactive portion disposed between said active portion and a top face of said block body and a second inactive portion adjacent to a portion of the bottom face;

a layered structure of alternating signal electrodes and common electrodes arranged in the active portion, substantially parallel with the bottom face and separated by layers of the piezoelectric material, wherein each signal electrode is neighbored by at least one common electrode and each common electrode is neighbored by at least one signal electrode;

a layered structure of alternating auxiliary electrodes and common electrodes arranged in the first inactive portion, substantially parallel with the bottom face and separated by layers of the piezoelectric material, wherein each auxiliary electrode is neighbored by at least one common electrode and each common electrode is neighbored by at least one auxiliary electrode;

at least one signal lead electrode formed on a first side face of said block body of piezoelectric material and interconnecting the signal electrodes;

a ground lead electrode formed on a second side face opposite to the first side face and interconnecting the common electrodes;

and an auxiliary lead electrode interconnecting the auxiliary electrodes, wherein the auxiliary lead electrode is formed on a third side face of the block

C3
cont.

body, and wherein the block body comprises a second inactive part adjacent to a portion of the bottom face.

12. (Amended) An ink jet printhead containing a piezoelectric actuator, said piezoelectric actuator comprising:

a block body of piezoelectric material having a bottom face through which the mechanical energy of the actuator is transferred to a receiving member, said body having an active portion adjacent to the bottom face as well as an inactive portion disposed between said active portion and a top face of said block body;

a layered structure of alternating signal electrodes and common electrodes arranged in the active portion, substantially parallel with the bottom face and separated by layers of the piezoelectric material, wherein each signal electrode is neighbored by at least one common electrode and each common electrode is neighbored by at least one signal electrode;

a layered structure of alternating auxiliary electrodes and common electrodes arranged in the inactive portion, substantially parallel with the bottom face and separated by layers of the piezoelectric material, wherein each auxiliary electrode is neighbored by at least one common electrode and each common electrode is neighbored by at least one auxiliary electrode;

at least one signal lead electrode formed on a first side face of said block

C3
amended. body of piezoelectric material and interconnecting the signal electrodes;

a ground lead electrode formed on a second side face opposite to the first side face and interconnecting the common electrodes;

and an auxiliary lead electrode interconnecting the auxiliary electrodes, wherein the auxiliary lead electrode is formed on a third side face of the block body, and wherein at least one ink channel terminates in a nozzle and is covered by a flexible receiving member, said piezoelectric actuator being bonded to said flexible receiving member.

REMARKS

Claims 1, 3 and 11-12 have been rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Japan (100), in view of Naka or the prior art. Also, claims 4, 5, 7, 9 and 10 have been rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Japan (100) in view of Naka or prior art and combined with Uehara, Dibbern, or Okamura. These rejections are respectfully traversed.

As the Examiner will note, claims 1, 11 and 12 have been amended to recite that the inactive portion is disposed between the active portion and a top face of the block body. The Japanese reference (100) does not show an inactive portion disposed between the active portion and a top face of the block body. The inactive portion (i.e., the portion of the piezoelectric material with the